

REMARKS

The comments of the applicant below are each preceded by related comments of the examiner (in small, bold type).

Claims 8-15 and 17-41 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group, there being no allowable generic or linking claim. Election was made without traverse in the reply filed on February 15, 2007.

Claims 8 – 15 and 17 – 41 have been canceled.

Claims 1, 5, 7 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Scofield (US 6,853,732 B2).

With respect to claim 1, Scofield discloses an audio system including a plurality of channels (fig.3 #54,56), comprising: a listening area (fig.3 #64), comprising a plurality of listening spaces (fig.3 "spaces occupied by listeners #26"); a directional audio device (fig.3 #58,60), positioned in a first of said listening spaces, close to a head of a listener (fig.3 #26), for radiating first sound waves corresponding to components of one region for receiving the said channels; and a nondirectional audio device (fig.3 #52), positioned inside said listening area and outside said listening space, distant from said listening space, for radiating sound waves corresponding to components of a second of said channels (col.4 In.58-63).

The applicant respectfully disagrees.

Claim 1 recites, among other things, an audio system including a plurality of channels intended to be radiated by an audio device in predetermined orientation relative to the listener. Claim 1 further recites a directional audio device for radiating sound waves corresponding to components of one of the plurality of channels and a nondirectional audio device for radiating sound waves corresponding to components of a second of said channels.

The reference does not teach or suggest a nondirectional audio device for radiating sound waves corresponding to components of one of a plurality of channels intended to be radiated by an audio device in a predetermined orientation relative to the listener. The examiner has identified element 52 of the reference as corresponding to the nondirectional audio device. Element 52 of the reference is for radiating a bass channel, which is not intended to be radiated by an audio device in a predetermined orientation relative to the listener. As noted in the reference at column 4, lines 24 – 25, no left or right distinctions are made in speaker 52, and at

column 4, lines 46 – 50, important localization cues are not contained in the low frequency portion of the audio spectrum.

With respect to claim 5, Scosfield discloses an audio system in accordance with claim 1, wherein said listening area comprises a theater and said first and second listening spaces comprise seating locations within said theater (col.1 In.33-36).

Claim 5 is patentable at least because it depends on allowable claim 1.

With respect to claim 7, Scosfield discloses a method for operating an audio system for radiating sound into a first listening space and a second listening space, said first listening space adjacent said second listening space (fig.3 "spaces occupied by listeners #26"), comprising: receiving first audio signals (fig.3 "L,R"); transmitting first audio signals (fig.3 #54,56) to a first transducer (fig.3 #52, col.4 In.21-25); transducing, by said first transducer, said first audio signals into first sound waves corresponding to said first audio signals; radiating said first sound waves into a first listening space; processing said first audio signals to provide delayed first audio signals, wherein said processing comprises at least one of time delaying said audio signals and phase shifting said audio signals (col.4 In.37-45); transmitting said delayed first audio signals to a second transducer (fig.3 #58,60); transducing, by said second transducer, said delayed first audio signals into second sound waves corresponding to said delayed first audio signals; and radiating said second sound waves into said second listening space (fig.3).

The applicant respectfully disagrees.

Claim 7 recites, among other things, receiving first audio signals, transducing said first audio signals into first sound waves, and radiating said first sound waves into a first listening space; and processing said first audio signals to provide delayed first audio signals.

In the construction proposed by the examiner, the audio signals that are processed are not the first audio signals. They are low frequency audio signals, different from the audio signals that are received by and transduced by speakers 58 and 60. Claim 7 therefore does not read on the reference.

With respect to claim 16, Scosfield discloses a method for radiating audio signals comprising: radiating sound waves corresponding to first audio signals (fig.3 "R") directionally to a first listening space (fig.3 #58,60, "spaces occupied by listeners #26"); radiating sound waves corresponding to second audio signals (fig.3 "L") directionally to a second listening space (fig.3 #58,60, "spaces occupied by listeners #26"); and radiating sound waves corresponding to third audio signals nondirectionally to said first listening space and said second listening space (fig.3 #52, col.4 In.58-63).

The applicant respectfully disagrees.

There is no teaching or suggestion in the reference of radiating sound wave directionally. As noted in the reference at col. 4, line 66 – col. 5, line 26, the sound waves are radiated by localized speakers in a fixed position relative to the head. The sound levels are relatively low so that sound received by one listener will not interfere with the sound received by a listener in an adjacent seat. This method of claim 7 is distinguished from, and advantageous to, the method taught by the reference for reasons stated in the application at page 10, line 31 – page 11, line 10.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (US 6,853,732 B2) in view of Iwahara (US 4,199,658).

With respect to claim 2, Scofield discloses an audio system in accordance with claim 1, wherein said directional audio devices comprise a plurality of acoustic drivers (fig.3 #58,60), however does not disclose expressly wherein said acoustic drivers are positioned and arranged to radiate sound waves that interfere destructively at a first predetermined location in space and to interfere nondestructively at a second predetermined location in space.

Iwahara discloses an audio system wherein a plurality of acoustic drivers (fig.1 #1-4) are positioned and arranged to radiate sound waves that interfere destructively at a first predetermined location in space and to interfere nondestructively at a second predetermined location in space (col.1 In.37-68, col.2 In.1-2).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the crosstalk cancellation system of Iwahara in the invention of Scofield. The motivation for doing so would have been to cancel inter-aural interferences between the right and left ears of a listener.

With respect to claim 3, Scofield discloses an audio system in accordance with claim 2 in view of Iwahara, wherein said first predetermined location is in a first listening space and said second predetermined location is in a second listening space (Iwahara: col.1 In.57-66).

With respect to claim 4, Scofield discloses an audio system in accordance with claim 2 in view of Iwahara, wherein said first predetermined location is proximate a first volume for receiving a first ear of a listener and wherein said second predetermined location is proximate a second volume for receiving a second ear of said listener (Iwahara: col.1 In.57-66).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scofield (US 6,853,732 62).

With respect to claim 6, Scofield discloses an audio system in accordance with claim 1, however does not disclose expressly wherein said listening area comprises a vehicle passenger compartment and said listening locations comprise seating locations within said

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vehicle passenger compartment. Official Notice is taken that it is well known in the art that vehicles contain audio systems. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the audio system of Scofield in an automobile. The motivation for doing so would have been to provide a virtual sound system within the cabin of a vehicle so as to provide a realistic reproduced sound to a passenger.

All of the dependent claims are patentable for at least the reasons for which the claims on which they depend are patentable.

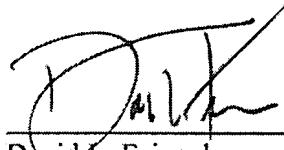
Canceled claims, if any, have been canceled without prejudice or disclaimer.

Any circumstance in which the applicant has (a) addressed certain comments of the examiner does not mean that the applicant concedes other comments of the examiner, (b) made arguments for the patentability of some claims does not mean that there are not other good reasons for patentability of those claims and other claims, or (c) amended or canceled a claim does not mean that the applicant concedes any of the examiner's positions with respect to that claim or other claims.

Please apply any other charges or credits to deposit account 06-1050, order 02103-519002.

Respectfully submitted,

Date: 1/24/07



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